Differences between Bacterial and Mammalian Cells that may help explain their dramatically different reactions to Pulsed Electromagnetic Fields.

Viruses are generally surrounded by a lipid envelope or protein capsid instead of a cell "wall".

Bacteria generally have one of three types of cell covering: gram positive or gram negative (both of these contain a "wall" structure, along with one or two membranes); or thirdly, a simple membrane lacking a "wall" component. The latter is typical of bacteria such as mycoplasmas and L-forms(1).

There have been instances noted wherein some walled bacteria partially or totally lose their wall, and transform to a membranous type of bacteria.(1)

There are many differences between bacterial (prokaryotic) and mammalian (eukaryotic) cells (2), some or all of which may have a collective bearing on how frequency delivery systems might influence them:

- Their DNA structure is very different. Mammalian DNA is bonded to proteins called histones, which wrap and fold the DNA into a manageable size. Bacterial and viral DNA do not contain histones. The histones may provide electrical shielding to mammalian DNA, as compared to bacterial and viral DNA. DNA in eukaryotic cells is surrounded by a nucleus and the nuclear membrane. Bacterial cells do not contain a nucleus.
- Eukaryotic cells are generally 10-30 times larger in linear dimension, and 1,000-10,000 times greater in volume than typical bacterial cells. This results in a much smaller surface to volume ratio in eukaryotic cells as compared to bacterial.
- Because of the difference in wall and membrane components, bacterial cells carry a much denser negative electrical charge on their outside surface than eukaryotic cells do. Also, the cell walls of bacteria are highly porous, and the pores are relatively large. These traits allow easy movement of ions and proteins through the pores. While these characteristics are necessary for bacterial metabolic processes to take place, it's possible they can be used to advantage when
influencing the bacteria with electromagnetic frequency delivery systems.

- The constituents of bacterial membranes are chemically and electrically different than those of eukaryotic membranes.

- Bacteria possess no internal cytoskeleton, as do eukaryotic cells. This would include microtubules and actin filaments. Furthermore, bacteria do not perform endocytosis or exocytosis.

Individually or collectively, all these factors and possibly others may play a part in why certain pathogenic organisms are influenced more easily than eukaryotic animal and plant cells by frequency delivery systems.